Appendix A

Documentation of the Safety Category of Structures, Systems, and Components

NOT INCLUDED WITH THIS DRAFT

Appendix B

Detailed Cost Estimate

NOT INCLUDED WITH THIS DRAFT

Appendix C

Applicable or Relevant and Appropriate Requirements

Table C-1. ICDF Regulatory Requirements.

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
16 USC 469 et seq. Title 16 – Conservation Chapter 1A – Historic Sites, Buildings, Objects, and Antiquities Subchapter I – General Provisions Section 469 – Preservation of historical and archeological data threatened by alterations of terrain	The purpose of sections 469 to 469c-1 is to provide for the preservation of historical and archeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of any alteration of the terrain caused as a result of any Federal construction project or federally licensed activity or program. Whenever any Federal construction project or federally licensed project, activity, or program may cause irreparable loss or destruction of significant scientific, pre-historical, historical, or archeological data, the Federal agency responsible for the project, program, or activity shall notify the Secretary, in writing, and shall provide the Secretary with appropriate information concerning the project, program, or activity. Actions taken may include the recovery, protection, and preservation of the data (including preliminary survey, or other investigation, and analysis and publication of the reports resulting from the investigation). Copies of reports shall be submitted to the Secretary, who shall make them available to the public for inspection and review.	Pre-Construction **Administrative**. This requirement does not affect the ICDF design, but specifies the need to perform an archeological survey prior to construction of the ICDF Complex. It will be met during siting new excavations and construction in previously undisturbed areas.	Environmental Checklist (EC), INEL-00-018. Has cleared the area for this requirement.
36 CFR 65 – Parks, Forests, and Public Property National Park Service, Department of the Interior National Historic Landmarks Program	36 CFR 65.1 Purpose and authority. The purpose of the National Historic Landmarks Program is to identify and designate National Historic Landmarks, and encourage the long-range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States. (b) The Secretary of the Interior is authorized: (1) To make a survey of historic and archeological sites, buildings and objects; (2) To make necessary investigations and researches relating to particular sites, buildings or objects to obtain true and accurate historical and archeological facts and information concerning the same. 36 CFR 65.2 Effects of designation. 36 CFR 65.3 Definitions. 36 CFR 65.4 National Historic Landmark criteria. 36 CFR 65.5 Designation of National Historic Landmarks. 36 CFR 65.6 Recognition of National Historic Landmarks. 36 CFR 65.7 Monitoring National Historic Landmarks. 36 CFR 65.8 Alteration of National Historic Landmark boundaries. 36 CFR 65.9 Withdrawal of National Historic Landmark designation. 36 CFR 65.10 Appeals for designation.	Pre-Construction **Administrative.** This requirement does not affect the ICDF design, but specifies the need to perform an archeological survey prior to construction of the ICDF Complex. It will be met during siting new excavations and construction in previously undisturbed areas. These regulations apply to properties designated as National Historic Landmarks. The ICDF Complex location, or any part of it, is not designated as a National Historic Landmark. Therefore, these regulations do not apply to the ICDF Complex location.	Environmental Checklist (EC), INEL-00-018. Has cleared the area for this requirement.

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
25 USC 3001 CHAPTER 32--NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION Section 3001 – Definitions	These definitions give further information regarding Native American Graves Protection.	Pre-construction **Administrative**. These definitions do not affect the design or operation of the ICDF Complex. However, the location of the ICDF Complex shall not disturb any burial site, cultural items, associated or unassociated funerary objects, sacred objects, or other Native American object of historical, traditional, or cultural importance. An archeological survey shall be conducted prior to construction of the ICDF complex.	Environmental Checklist (EC), INEL-00-018. Has cleared the area for this requirement.
40 CFR 61.92 Standard	Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr.	**ICDF Operations.** Will be met using administrative and engineering controls	Does not apply to ICDF construction because this is non-radiological work.
40 CFR 61.93 Emission monitoring and test procedures.	(a) To determine compliance with the standard, radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using EPA approved sampling procedures, computer models CAP-88 or AIRDOS-PC, or other procedures for which EPA has granted prior approval. 40 CFR 61.93 (b)(4)(ii) To determine whether a release point is subject to the emission measurement (requirements of paragraph (b) of this section, it is necessary to evaluate the potential for radionuclide emissions for that release point. In evaluating the potential of a release point to discharge radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal.	Modeling requirements to determine compliance – radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using EPA approved sampling procedures, computer models CAP-88 or AIRDOS-PC, or other procedures for which EPA has granted prior approval. CAP-88 modeling will be performed to determine compliance with this standard. NESHAPS modeling may affect the ICDF Waste Acceptance Criteria (WAC).	ICDF WAC/NESHAPS Modeling will be included in the SSSTF 90% Design
40 CFR 122.26 EPA-Administered Permit Programs: The National Pollutant Discharge Elimination System Storm Water Discharges	NPDES permit application and special NPDES program requirements	**Design and Operations.** Will be met during excavation and disposal through engineering controls. The Storm Water Management Plan will contain the required information.	Storm Water Management Plan Storm Water Pollution Prevention Plan (SWPPP) SPC-1475 ("INEEL CERCLA Disposal Facility Specifications for Excavation and Constructing and Testing of Clay Liner and Test Pad") Storm Water Management Specifications (Part of SPC-1475)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
40 CFR 761.50(d)(4) PCBs Applicability	(d) Performance specifications for disposal technologies— (4) Chemical waste landfills. Any person using a chemical waste landfill to dispose of PCBs must use a chemical waste landfill that meets the criteria set forth in 40 CFR 761.75.	**ICDF Design.** These are the performance specifications for disposal technologies and design requirements for landfills that dispose of wastes containing greater than 50 ppm PCBs.	ICDF Disposal Cells (DOE/ID-10865)
40 CFR 761.75(b) Chemical Waste Landfills	This section applies to facilities used to dispose of PCBs. (a) General. A chemical waste landfill used for the disposal of PCBs and PCB items shall be approved by the Agency Regional Administrator pursuant to paragraph (c) of this section. The landfill shall meet all of the requirements specified in paragraph (b) of this section, unless a waiver from these requirements is obtained. In addition, the landfill shall meet any other requirements that may be prescribed. (b) Technical requirements. Requirements for chemical waste landfills used for the disposal of PCBs and PCB Items are given in this section.	Applies to the **ICDF design** Applicable to PCB-contaminated soils. Describes the landfill facility design requirements at which PCB-contaminated soils will be disposed of.	See next sections.
40 CFR 761.75 (b)(1)	(1) Soils. The landfill site shall be located in thick, relatively impermeable formations such as large-area clay pans. Where this is not possible, the soil shall have a high clay and silt content with the following parameters: (i) In-place soil thickness, 4 ft, or compacted soil liner thickness, 3 ft; (ii) Permeability (cm/sec), equal to or less than 1 x 10^{-7}; (iii) Percent soil passing No. 200 Sieve, >30; (iv) Liquid Limit, >30; and (v) Plasticity Index >15.	**Design.** Minimum soil thickness and soils specifications	Drawing to be identified. "Construction Quality Assurance Plan for the INEEL CERCLA Disposal Facility – Annotated Outline" (DOE/ID-10851) Section in SPC-1476 "Soils Bentonite Liner"
40 CFR 761.75 (b)(2)	(2) Synthetic membrane liners. Synthetic membrane liners shall be used when, in the judgment of the Regional Administrator, the hydrologic or geologic conditions at the landfill require such a liner in order to provide at least permeability equivalent to the soils in paragraph (b)(1) of this section. Whenever a synthetic liner is used at a landfill site, special precautions shall be taken to insure that its integrity is maintained and that it is chemically compatible with PCBs. Adequate soil underlining and soil cover shall be provided to prevent excessive stress on the liner and to prevent rupture of the liner. The liner must have a minimum thickness of 30 mils.	**Design.** Specification of membrane liner.	"Liner/Leachate Compatibility Study" (EDF-ER-278). SPC-1476, Other Specifications Section 02661 – Geomembranes
40 CFR 761.75(c)	(c) Approval of chemical waste landfills. Prior to the disposal of any PCBs and PCB items in a chemical waste landfill, the owner or operator of the landfill shall receive written approval of the Agency Regional Administrator for the Region in which the landfill is located in accordance with the requirements in this section.	**Administrative**. Met by EPA review of the Remedial Design and Remedial Design/Remedial Action Work Plan.	Met by EPA review and approval process for RD/RA WP.
40 CFR 761.79(a) and (b) Decontamination standards and procedures.	(a) Applicability. This section establishes decontamination standards and procedures for removing PCBs, which are regulated for disposal, from water, organic liquids, non-porous surfaces (including scrap metal from disassembled electrical equipment), concrete, and non-porous surfaces covered with a porous surface, such as paint or coating on metal.	PCB-contaminated materials that are decontaminated in accordance with this section do not require disposal approval, and may be re-used or distributed. Does not apply to ICDF design.	N/A

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
	(1) Decontamination in accordance with this section does not require a disposal approval under subpart D of this part.	Since the ICDF is a disposal facility, there is no impact on ICDF design or operations.	
	Sections 761.79 (b)(3) and (b)(4) set standards for decontamination for re-use or disposal to a metal smelter of porous and non-porous PCB-contaminated materials.	Since the ICDF is a disposal facility, there is no impact on ICDF design or operations.	
DOE Order 435.1	DOE Order 435.1 Crosswalk Radioactive waste management performance objectives designed to protect workers	Applies to the entire ICDF Complex. Substantive requirements will be met in designing, constructing, and operating the ICDF to protect workers. In addition, substantive requirements will be met for excavation, handling, and transport of off-AOC radionuclide contaminated soils to the ICDF.	DOE Order 435.1 Crosswalk
DOE Order 5400.5	Exposures to the public will be kept ALARA.	Applies to ICDF Complex. Requirements are defined by compliance with the INEEL Radiological Control Manual. These requirements will be met by administrative and engineering controls during construction, operation, and closure of the ICDF, and by the capping system after closure.	Will be met through internal procedures.
IDAPA 58.01.01.585 IDAPA 58.01.01.586	585. TOXIC AIR POLLUTANTS NON-CARCINOGENIC INCREMENTS. The screening emissions levels (EL) and acceptable ambient concentrations (AAC) for non-carcinogens are as provided in the table given in IDAPA 58.01.01.585. The AAC in this section are twenty-four (24) hour averages. 586. TOXIC AIR POLLUTANTS CARCINOGENIC INCREMENTS. The screening emissions levels (EL) and acceptable ambient concentrations (AACC) for carcinogens are as provided in the table give in IDAPA 58.01.01.586. The AACC in this section are annual averages.	**Administrative.** The contaminants that have been detected in the design waste inventory will be used to determine if the ICDF design and operations will be in compliance with screening emissions levels and acceptable ambient concentrations. **Administrative.** Emission levels (EL) and acceptable ambient concentrations (AAC) must be below the levels specified in the tables.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865) "Waste Acceptance Criteria for ICDF Evaporation Pond" (DOE/ID-10866)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.01.650, 58.01.01.651	650. RULES FOR CONTROL OF FUGITIVE DUST. The purpose of Sections 650 through 651 is to require that all reasonable precautions be taken to prevent the generation of fugitive dust. (5-1-94) 651. GENERAL RULES. All reasonable precautions shall be taken to prevent particulate matter from becoming airborne. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions, which might affect the movement of particulate matter. Some of the reasonable precautions may include, but are not limited to, the following: (5-1-94) 01. Use Of Water Or Chemicals. Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land. (5-1-94) 02. Application Of Dust Suppressants. Application, where practical, of asphalt, oil, water or suitable chemicals to, or covering of dirt roads, material stockpiles, and other surfaces which can create dust. (5-1-94) 03. Use Of Control Equipment. Installation and use, where practical, of hoods, fans and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations. (5-1-94) 04. Covering Of Trucks. Covering, when practical, open bodied trucks transporting materials likely to give rise to airborne dusts. (5-1-94) 05. Paving. Paving of roadways and their maintenance in a clean condition, where practical. (5-1-94) 06. Removal Of Materials. Prompt removal of earth or other stored material from streets, where practical.	**Construction**. Dust control during construction and operations using a combination of administrative controls (speed limits and wind shut-down limits) and operational controls (use of water or chemical dust suppressants), paving, covering of trucks	"Remedial Design /Remedial Action Work Plan/Title II Design – Annotated Outline." (DOE/ID-10848)
IDAPA 58.01.05.005 (40 CFR 261) Identification and Listing of Hazardous Waste Subpart C – Characteristics of Hazardous Waste 40 CFR 261.20 General	(a) A solid waste, as defined in 40 CFR 261.2, which is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart. b) A hazardous waste identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable. This number must be used in complying with the notification requirements of RCRA, and all applicable record keeping and reporting requirements under parts 262 through 265, 268, and 270 of this chapter. (c) The Administrator will consider a sample obtained using any of the applicable sampling methods specified in appendix I to be a representative sample within the meaning of part 260 of this chapter.	**Administrative**. Applies to ICDF Operations for management of hazardous wastes. The generator will determine if the waste is hazardous prior to sending the waste profile to the ICDF. Will be addressed in the ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
40 CFR 261.21 Characteristic of ignitability	(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties: (1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60° C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see 40 CFR 260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see 40 CFR 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in 40 CFR 260.20 and 260.21. (2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard. (3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under 40 CFR 260.20 and 260.21. (4) It is an oxidizer as defined in 49 CFR 173.127. (b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.	Applies to ICDF **Operations** for management of hazardous wastes. Ignitable waste has not been identified as a waste stream in the inventory. Ignitable wastes will not be accepted in the ICDF for disposal. Will be addressed in the ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
	Characteristic of ignitability	Applies to ICDF **Operations** for management of hazardous wastes. Ignitable wastes will not meet the ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
40 CFR 261.22 Characteristic of corrosivity	(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties: (1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 40 CFR 260.11 of this chapter. (2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 40 CFR 260.11 of this chapter. (b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.	Applies to ICDF **Operations** for management of hazardous wastes. Currently, no corrosive wastes are identified in the design basis inventory. Will be addressed in the WAC. Corrosive waste will not meet the ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
40 CFR 261.23 Characteristic of reactivity	(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties: (1) It is normally unstable and readily undergoes violent change without detonating. (2) It reacts violently with water. (3) It forms potentially explosive mixtures with water. (4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.	Does not apply to ICDF **Operations** because no reactive wastes have been identified in the design base inventory. Reactive wastes will not meet the WAC. Will be addressed in the WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
	(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment. (6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement. (7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure. (8) It is a forbidden explosive as defined in 49 CFR 173.54, or a Class A explosive or Class B explosive as defined in 49 CFR 173.50 and 53. (b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.		
40 CFR 261.24 Toxicity Characteristic	(a) A solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 40 CFR 260.11, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section. (b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in the Table in this part, which corresponds to the toxic contaminant causing it to be hazardous.	Applies to ICDF **Operations** for management of hazardous wastes. Wastes from outside the AOC, and/or wastes from within the AOC that have triggered placement, must meet LDRs. Wastes from outside the AOC must meet LDRs.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
IDAPA 58.01.05.008 [40 CFR 264.14(a), (b), (c)] Security	The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility. A sign stating "Danger—Unauthorized Personnel Keep Out" must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The words must be written in English, and must be legible from a distance of at least 25 ft.	**Design, Construction, and Operations**. Requirement for security at the ICDF Complex. Requires design of the ICDF to implement fences with locking gates and barriers to prevent unauthorized entry. Existing signs with information other than "Danger—Unauthorized Personnel Keep Out" may be used if the words on the sign indicate that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.	Construction and Operations (A sign specification will be included in the 90% ICDF Design)
IDAPA 58.01.05.008 [40 CFR 264.15(a), (c)] General Inspection Requirements	(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to--(1) release of hazardous waste constituents to the environment or (2) a threat to human health. (c) The owner or operator must remedy any deterioration or malfunction of equipment or structures that the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.	**Administrative/Operational** requirement for inspections and corrective actions The owner or operator must conduct inspections often enough to identify problems in time to correct them before they harm human health or the environment and must remedy any deterioration or malfunction of equipment or structures on a schedule which ensures that the problem does not lead to an environmental or human health hazard.	"ICDF Complex Operation and Maintenance (O&M) Plan – Annotated Outline" (DOE/ID-10852)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 (40 CFR 264.16(a)(1) and (c) Personnel Training	a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section. c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.	**Administrative.** Training will be provided prior to operation of the ICDF Complex and maintained through the life of the facility.	"ICDF Complex Operation and Maintenance (O&M) Plan" (DOE/ID-10852)
IDAPA 58.01.05.008 (40 CFR 264.18(a) and (b) Landfill Location Standards	a) Seismic considerations. (1) Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 m (200 ft) of a fault which has had displacement in Holocene time.	This applies to siting the ICDF. Prior to construction, the site location must be evaluated based on these criteria.	"Staging Storage, Sizing, and Treatment Facility Siting Study" (part of the SSSTF 30% Design), (DOE/ID-10825, EDF-ER-1548)
	(b) Floodplains. (1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout or any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate to the Regional administrator's satisfaction that:	N/A. Facility is not in the 100-year floodplain.	
	(i) Procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or	N/A. Facility is not in the 100-year floodplain.	
	(ii) For existing surface impoundments, waste piles, land treatment units, landfills, and miscellaneous units, no adverse effects on human health or the environment will result if washout occurs.	N/A. None existing.	
IDAPA 58.01.05.008 [40 CFR 264, Subpart F (40 CFR 264.90 through 264.100) Releases from Solid Waste Management Units 40 CFR 264.90 Applicability	(a)(1) Except as provided in paragraph (b) of this section, the regulations in this subpart apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units. (2) All solid waste management units must comply with the requirements in Sec. 264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 must comply with the requirements of Secs. 264.91 through 264.100 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer.	This ARAR applies to detection of releases from SWMUs, and will apply to the ICDF Complex, specifically the ICDF Landfill. This ARAR includes groundwater protection standards, hazard constituents, point of compliance, groundwater monitoring, and detection monitoring.	Closure and Post-closure monitoring will be in the Closure/Post-closure plan
	(c) The regulations under this subpart apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this subpart: **(1) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure.**	The ICDF is required to have a facility monitoring plan.	"ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)
IDAPA 58.01.05.008 (40 CFR 264.92) Groundwater Protection Standard	The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under Sec. 264.93 detected in the ground water from a regulated unit do not exceed the concentration limits under Sec. 264.94 in the uppermost aquifer underlying the waste management area beyond the point of compliance under Sec. 264.95 during the compliance period under Sec. 264.96.	**Operations.** Because this is a CERCLA remediation, a permit is not required. A facility monitoring program will be required for the ICDF.	"ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 (40 CFR 264.93) Hazardous Constituents	a) The Regional Administrator will specify in the facility permit the hazardous constituents to which the ground-water protection standard of Sec. 264.92 applies. Hazardous constituents are constituents identified in appendix VIII of part 261 of this chapter that have been detected in ground water in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Regional Administrator has excluded them under paragraph (b) of this section. (b) The Regional Administrator will exclude an appendix VIII constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. (c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility, the Regional Administrator will consider any identification of underground sources of drinking water and exempted aquifers made under Sec. 144.8 of this chapter.	**Operations.** Because this is a CERCLA remediation, a permit is not required. A facility monitoring program will be required for the ICDF.	"ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)
IDAPA 58.01.05.008 (40 CFR 264.95) Point of Compliance	(a) The Regional Administrator will specify in the facility permit the point of compliance at which the ground-water protection standard of Sec. 264.92 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units. (b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit. (1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit. (2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.	**Operations.** A facility monitoring program will be required for the ICDF. Compliance at which the ground-water protection standard applies.	"ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)
IDAPA 58.01.05.008 (40 CFR 264.97) General Groundwater Monitoring Requirements	The owner or operator must comply with the following requirements for any ground-water monitoring program developed to satisfy Sec. 264.98, Sec. 264.99, or Sec. 264.100: (a) The ground-water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that: (1) Represent the quality of background water that has not been affected by leakage from a regulated unit; (2) Represent the quality of ground water passing the point of compliance. (3) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer. b) If a facility contains more than one regulated unit, separate ground-water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer. (c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the borehole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.	**Operational.** Groundwater monitoring will be required to ensure the integrity of the ICDF Complex and the leachate collection system. The specific elements of the monitoring and response program will be identified by the Regional Administrator.	"ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
	(d) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground-water quality below the waste management area. At a minimum the program must include procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, and chain of custody control. (e) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents in ground-water samples. (f) The ground-water monitoring program must include a determination of the ground-water surface elevation each time ground water is sampled. (g) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit will be collected from background wells and wells at the compliance point(s). The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the Regional Administrator. This sampling procedure shall be a sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants, or an alternate sampling procedure proposed by the owner or operator and approved by the Regional Administrator. (h) The owner or operator will specify one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent, which, upon approval by the Regional Administrator, will be specified in the unit permit. (j) Ground-water monitoring data collected in accordance with paragraph (g) of this section including actual levels of constituents must be maintained in the facility operating record. The Regional Administrator will specify in the permit when the data must be submitted for review.		
IDAPA 58.01.05.008 (40 CFR 264.98) Detection Monitoring Program	(a) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in ground water. The Regional Administrator will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors: (1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit; (2) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area; (3) The detectability of indicator parameters, waste constituents, and reaction products in ground water; and (4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the ground-water background. (b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under Sec. 264.95. The ground-water monitoring system must comply with Sec. 264.97(a)(2), (b), and (c).	**Operational**. The Regional Administrator will specify the parameters or constituents to be monitored.	"ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848) "ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
	(c) The owner or operator must conduct a ground-water monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to paragraph (a) of this section in accordance with Sec. 264.97(g). The owner or operator must maintain a record of ground-water analytical data as measured and in a form necessary for the determination of statistical significance under Sec. 264.97(h). (d) The Regional Administrator will specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under paragraph (a) of this section in accordance with Sec. 264.97(g). A sequence of at least four samples from each well (background and compliance wells) must be collected at least semi-annually during detection monitoring. (e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually. (f) The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter of hazardous constituent specified in the permit pursuant to paragraph (a) of this section at a frequency specified under paragraph (d) of this section. (g) If the owner or operator determines pursuant to paragraph (f) of this section that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she must: (1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination; (2) Immediately sample the ground water in all monitoring wells and determine whether constituents in the list of appendix IX of part 264 are present, and if so, in what concentration. (3) For any appendix IX compounds found in the analysis, the owner or operator may resample within one month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds found pursuant to paragraph (g)(2) of this section, the hazardous constituents found during this initial appendix IX analysis will form the basis for compliance monitoring. (4) Within 90 days, submit to the Regional Administrator an application for a permit modification to establish a compliance monitoring program meeting the requirements of Sec. 264.99. (5) Within 180 days, submit to the Regional Administrator all data necessary to justify an alternate concentration limit sought under Sec. 264.94(b), and an engineering feasibility plan for a corrective action program necessary to meet the requirement of Sec. 264.100 (6) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. (h) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he or she must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.		

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 (40 CFR 264.110 through 264.120) Subpart G – Closure and Post-Closure 40 CFR 264.110 Applicability	Except as 40 CFR 264.1 provides otherwise: (a) Sections 264.111 through 264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and (b) Sections 264.116 through 264.120 (which concern post-closure care) apply to the owners and operators of: (1) All hazardous waste disposal facilities.	Applies to closure planning for any tank systems, waste pile, surface impoundment, and containment buildings.	Closure plan will be included in the 90% ICDF Design
IDAPA 58.01.05.008 (40 CFR 264.114) Disposal or decontamination of equipment, structures, and soils	During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated unless otherwise specified in 40 CFR 264.197, 264.228, 264.258, 264.280 or 40 CFR 264.310. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of part 262 of this chapter.	Will impact closure activities of the ICDF. Note that this is part of 264 Subpart G (264.110-120)--closure and post-closure requirements--that was discussed earlier. All equipment will be decontaminated prior to leaving the ICDF.	Closure plan will be included in the 90% ICDF Design
IDAPA 58.01.05.008 (40 CFR 264.170-179) Subpart I – Use and Management of Containers 40 CFR 264.170 Applicability	The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste. Comment: Under 261.7 and 261.33(c), if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is "empty" as defined in 261.7. In that event, management of the container is exempt from these requirements.	Applies to ICDF **Operations** while incorporating containers into the landfill. Will be addressed in ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
IDAPA 58.01.05.008 (40 CFR 264.170-179) Subpart I (continued) 40 CFR 264.171 Condition of Containers	If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this part.	**Operations**. Replace the container holding hazardous waste if it is not in good condition or manage it in some other way that complies with requirements of Subpart I. Will be addressed in ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
40 CFR 264.172 Compatibility of waste with containers	The owner or operator must use a container made of or lined with material that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.	**Operations**. Use a container that is compatible with the hazardous waste that will be stored in it. Will be addressed in ICDF WAC.	"Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865)
40 CFR 264.179 Air emission standards	The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part.	**Operations**. If a tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw), then it exempt from these standards.	Evaporation Pond-(exempt) "Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-0865), and "Waste Acceptance Criteria for Evaporation Pond" (DOE/ID-10866). Will specify that wastes > 500 ppmw are not accepted.

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 – 40 CFR 264.221(a)(1) Surface Impoundment Design and Operating Requirements	(a) Any surface impoundment that is not covered by paragraph (c) of this section must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with Sec. 264.228(a)(1). For impoundments that will be closed in accordance with Sec. 264.228(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be: (1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation.	**Design – Evaporation Pond**. Applies to the design and operation of the evaporation pond, including the liner and the leachate collection system.	Evaporation Pond Design (EDF-ER-271)
IDAPA 58.01.05.008 – 40 CFR 264.221(a)(2)	(2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and	**Design** Requirements for Evaporation Pond.	Evaporation Pond Design (EDF-ER-271)
IDAPA 58.01.05.008 – 40 CFR 264.221(a)(3)	(3) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.	Evaporation Pond **Installation/Design** Requirement	Evaporation Pond Design/ Installation (EDF-ER-271)
IDAPA 58.01.05.008 – 40 CFR 264.221(b)	(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see Sec. 264.93) into the ground water or surface water at any future time.	N/A	N/A
IDAPA 58.01.05.008 – 40 CFR 264.221(c)	(c) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, must install two or more liners and a leachate collection and removal system between such liners.	**Design**. Two liners are required.	Evaporation Pond Design/Installation (EDF-ER-271)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(1)(i)(A)	(1)(i) The liner system must include: (A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and	Liner **Design** (see regulatory text)	Evaporation Pond Design/Installation (EDF-ER-271)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(1)(i)(B)	(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 ft (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.	Liner **Design**	Evaporation Pond Design/Installation (DWGs H-202 to H-206) (EDF-ER-271)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(1)(ii)	(ii) The liners must comply with paragraphs (a) (1), (2), and (3) of this section.	Liner **Design**	Evaporation Pond Design/Installation (DWGs H-202 to H-206) (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(2)	(2) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:	Leachate Collection System **Design**	Evaporation Pond Design (DWGs L-202 to L-206) (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(2)(i)	(i) Constructed with a bottom slope of one percent or more;	**Evaporation Pond Liner Design**	**Evaporation Pond Design** (DWGs L-202 to L-206).
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(2)(ii)	(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-1}/ cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-4}/ m/2/sec or more;	Evaporation Pond **Design**	Evaporation Pond Design (Pending identification of specification and/or drawing).
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(2)(iii)	(iii) Constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment;	Evaporation Pond **Design**	Evaporation Pond Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(2)(iv)	(iv) Designed and operated to minimize clogging during the active life and post-closure care period; **and**	Evaporation Pond **Design and Operation**	Evaporation Pond Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(2)(v)	(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. **Each unit must have its own sump(s).** The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.	Evaporation Pond **Design and Construction**	Evaporation Pond Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(3)	(3) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner.	Evaporation Pond **Operations**	Evaporation Pond O&M Plan
IDAPA 58.01.05.008 – 40 CFR 264.221(c)(4)	(4) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.	Not Applicable to ICDF Evaporation Pond Site, the site is 400 ft above the high water table.	N/A

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 – 40 CFR 264.221(d)(1)	(d) The Regional Administrator may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Regional Administrator that such design and operating practices, together with location characteristics: (1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal system specified in paragraph (c) of this section; and (2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.	Alternative Design Standards. Not applicable to ICDF Evaporation Pond Design	N/A
IDAPA 58.01.05.008 – 40 CFR 264.221(d)(2), (g), (h), and (i)	(g) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error. (h) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit. (i) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.		N/A
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(1)(i) Landfill Design and Operating Requirements	a) Any landfill that is not covered by paragraph (c) of this section must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have: (1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be: (i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;	**Design**. Applies to the design and operation of the landfill, including the liner and the leachate collection system. The ICDF will be designed to meet minimum technology requirements. See Regulatory Text.	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(1)(ii)	(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and	**Design**. ICDF design requirements. See Regulatory Text.	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(1)(iii)	(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and	ICDF **Design and Construction**	ICDF Design and Installation (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(2)	(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:	ICDF **Design**	ICDF Design (related documents to be listed)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(2)(i)(A)	(i) Constructed of materials that are: (A) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and	ICDF **Design and Construction**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(2)(i)(B)	(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(a)(2)(ii)	(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.	ICDF **Design**	Information will be provided in the Title II Design deliverable
IDAPA 58.01.05.008 – 40 CFR 264.301(b)	(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see Sec. 264.93) into the ground water or surface water at any future time.	N/A	N/A
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(1)(i)(A)	(c) The owner or operator of each new landfill unit on which construction commences after January 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners. (1)(i) The liner system must include: (A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and	ICDF **Design**. See regulatory text.	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(1)(i)(B)	(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 ft (91 cm) of compacted soil material with a hydraulic conductivity of no more than 10 x 10-7 cm/sec.	ICDF **Design**. See regulatory text.	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(1)(ii)	(ii) The liners must comply with paragraphs (a)(1) (i), (ii), and (iii) of this section.	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(2)	(2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (3)(c) (iii) and (iv) of this section.	ICDF **Design, Construction, and Operations**. See regulatory text.	ICDF Design (related documents to be listed)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(3)	(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(3)(i)	(i) Constructed with a bottom slope of one percent or more;	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(3)(ii)	(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1 x 10-2 cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3 x 10-5 m2/sec or more;	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(3)(iii)	(iii) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(3)(iv)	(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and	ICDF **Design and Operations**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(3)(v)	(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.	ICDF **Design, Construction, and Operations**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(4)	(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.	ICDF **Operations**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(c)(5)	(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.	Not applicable to the ICDF site	N/A
IDAPA 58.01.05.008 – 40 CFR 264.301(d)(1)	(d) The Regional Administrator may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Regional Administrator that such design and operating practices, together with location characteristics: (1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and	Not applicable. Alternate design standards.	N/A

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 – 40 CFR 264.301(d)(2)	(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.	Not applicable. Alternate design standards.	N/A
IDAPA 58.01.05.008 – 40 CFR 264.301(g)	(g) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm	ICDF **Design**	ICDF Design (related documents to be listed)
IDAPA 58.01.05.008 – 40 CFR 264.301(h)	(h) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.	ICDF **Design, Construction, and Operations**	Information will be provided in the Title II Design deliverable.
IDAPA 58.01.05.008 – 40 CFR 264.301(i)	(i) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.	ICDF **Design and Operations**	Information will be provided in the Title II Design deliverable.
IDAPA 58.01.05.008 – 40 CFR 264.301(j)	(j) If the landfill contains any particulate matter that may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.	ICDF **Operations**	Information will be provided in the Title II Design deliverable.
IDAPA 58.01.05.008 – 40 CFR 264.301(k)	(k) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.	ICDF **Operations.** Permit is Administrative, and is not applicable.	N/A
IDAPA 58.01.05.008 (40 CFR 264.302) Landfill Action Leakage Rate	a) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to Sec. 264.301(c) or (d). The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.). (b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under Sec. 264.303(c), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under Sec. 264.303(c).	Applies to **ICDF Design and Operations**. The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design During operations, the action leakage rate must be monitored.	"Leachate Collection System Design Analysis" (EDF-ER-280).
IDAPA 58.01.05.008 (40 CFR 264.309(a) and (b) Landfills: Surveying and Record keeping	The owner or operator of a landfill must maintain the following items in the operating record required under 40 CFR 264.73: On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and the contents of each cell and the approximate location of each hazardous waste type within each cell.	These are **operational** requirements for the ICDF Landfill.	"ICDF Complex Operation and Maintenance (O&M) Plan – Annotated Outline" (DOE/ID-10852).

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 (40 CFR 264.310(a)(1)(2) Landfill Closure Requirements	a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to: (1) Provide long-term minimization of migration of liquids through the closed landfill; (2) Function with minimum maintenance;	**Closure requirements**. Gives the closure requirements for the ICDF complex. Does not affect design	
IDAPA 58.01.05.008 (40 CFR 264.310(a)(3)(4)(5)	(3) Promote drainage and minimize erosion or abrasion of the cover; (4) Accommodate settling and subsidence so that the cover's integrity is maintained; and (5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.		Information will be provided in the Title II Design deliverable.
IDAPA 58.01.05.008 (40 CFR 264.310(b)(1)(4)(5)(6) Landfill Post-Closure Requirements	b) After final closure, the owner or operator must comply with all post-closure requirements contained in Secs. 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under Sec. 264.117). The owner or operator must: (1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events; (4) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of subpart F of this part; (5) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and (6) Protect and maintain surveyed benchmarks used in complying with Sec. 264.309.	Gives the **post-closure requirements** for the ICDF complex.	N/A – Post-Closure
IDAPA 58.01.05.008 (40 CFR 264.552) Corrective Action Management Units (CAMUs)	(a) To implement remedies under Sec. 264.101 or RCRA 3008(h), or to implement remedies at a permitted facility that is not subject to Sec. 264.101, the Regional Administrator may designate an area at the facility as a corrective action management unit, as defined in Sec. 260.10, under the requirements in this section. A CAMU must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the CAMU originated. One or more CAMUs may be designated at a facility.	Applies to the **WAC and Operation** of the evaporation pond.	"Waste Acceptance Criteria for ICDF Evaporation Pond" (DOE/ID-10866).
	(1) Placement of remediation wastes into or within a CAMU does not constitute land disposal of hazardous wastes.	Evaporation Pond WAC	
	(2) Consolidation or placement of remediation wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.		
	(b)(1) The Regional Administrator may designate a regulated unit (as defined in Sec. 264.90(a)(2)) as a CAMU, or may incorporate a regulated unit into a CAMU, if:		
	(i) The regulated unit is closed or closing, meaning it has begun the closure process under Sec. 264.113 or Sec. 265.113; and		
	(ii) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.		
	(2) The subpart F, G, and H requirements and the unit-specific requirements of part 264 or 265 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.	ICDF Operations	Parts F and G will be met by the BBWI Monitoring Plan. Part H does not apply

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
	(c) The Regional Administrator shall designate a CAMU in accordance with the following: (1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies; (2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents; (3) The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing remediation waste is more protective than management of such wastes at contaminated areas of the facility; (4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable; (5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable; (6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and (7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.	**Design and Operations**. Waste management activities associated with the CAMU shall comply with the RAOs as outlined in the ROD (40 CFR 221) and meet risks to humans and the environment through both remedial design and operational procedures. Post-closure monitoring and institutional control will be performed by DOE and its contractors.	
	(d) The owner/operator shall provide sufficient information to enable the Regional Administrator to designate a CAMU in accordance with the criteria in Sec. 264.552. (e) The Regional Administrator shall specify, in the permit or order, requirements for CAMUs to include the following: (1) The areal configuration of the CAMU. (2) Requirements for remediation waste management to include the specification of applicable design, operation and closure requirements. (3) Requirements for ground water monitoring that are sufficient to: (i) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the CAMU; and (ii) Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU. (4) Closure and post-closure requirements. (i) Closure of corrective action management units shall: (A) Minimize the need for further maintenance; and (B) Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.	**Design and Operations**. Waste management activities associated with the CAMU shall comply with the RAOs as outlined in the ROD (40 CFR 221) and meet risks to humans and the environment through both remedial design and operational procedures. Monitoring and Closure Requirements will be performed by BBWI.	Evaporation Pond design drawings Evaporation Pond WAC (DOE/ID-10866) "ICDF Remedial Design/Remedial Action Work Plan, Appendix E – Groundwater Monitoring Plan" (DOE-ID-10848)

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
	(ii) Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the Regional Administrator for a given CAMU: (A) Requirements for excavation, removal, treatment or containment of wastes; (B) For areas in which wastes will remain after closure of the CAMU, requirements for capping of such areas; and (C) Requirements for removal and decontamination of equipment, devices, and structures used in remediation waste management activities within the CAMU. (iii) In establishing specific closure requirements for CAMUs under Sec. 264.552(e), the Regional Administrator shall consider the following factors: (A) CAMU characteristics; (B) Volume of wastes which remain in place after closure; (C) Potential for releases from the CAMU; (D) Physical and chemical characteristics of the waste; (E) Hydrological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and (F) Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.	Monitoring and Closure Requirements will be performed by BBWI.	
	(iv) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system. (f) The Regional Administrator shall document the rationale for designating CAMUs and shall make such documentation available to the public. (g) Incorporation of a CAMU into an existing permit must be approved by the Regional Administrator according to the procedures for Agency-initiated permit modifications under Sec. 270.41 of this chapter, or according to the permit modification procedures of Sec. 270.42 of this chapter. (h) The designation of a CAMU does not change EPA's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.	Monitoring and Closure Requirements will be performed by BBWI. Evaporation Pond was designated as a CAMU in the OU 3-13 ROD.	
IDAPA 58.01.05.008 (40 CFR 264.1052 through 1062, which are within Subpart BB) Air Emission Standards for Equipment Leaks 40 CFR 264.1050 Applicability	(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in 40 CFR 264.1). Except as provided in 40CFR 264.1064 (k), this subpart applies to equipment that contains or contacts hazardous wastes with organic concentrations ***of at least 10 percent by weight.***	**Operations**. This regulations states that they only apply to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight. There is no waste inventory that has organic concentrations this high. Therefore, this regulation will have no impact on the design or operation of the ICDF. Addressed in ICDF WAC.	"Waste Acceptance Criteria for ICDF Evaporation Pond" (DOE/ID-10866), "Waste Acceptance Criteria for ICDF Landfill" (DOE/ID-10865).

Table C-1. (continued).

ARAR Citation	ARAR Requirement	Operations, Design, or Administrative Requirement for ARAR	Compliance Document
IDAPA 58.01.05.008 (40 CFR 264.1082 through 1088) Subpart CC – Air Emission Standards for Tanks, Surface Impoundments, and Containers. 40 CFR 264.1082 Air Emission Standards for Tanks, Surface Impoundments, and Containers	(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subpart. (b) The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in 40 CFR 264.1084 through 264.1087 of this subpart, as applicable to the hazardous waste management unit, except as provided for in paragraph (c) of this section. (c) A tank, surface impoundment, or container is exempt from standards specified in 40 CFR 264.1084 through 40 CFR 264.1087 of this subpart, as applicable, provided that the waste management unit is one of the following: A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in 40 CFR 264.1083(a) of this subpart. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.	This applies to the **operation** of the evaporation pond. It will be addressed in the WAC. The Evaporation Pond will be exempt from this requirement. 500 ppmw will be the limitation specified in the WAC.	"Waste Acceptance Criteria for ICDF Evaporation Pond" (DOE/ID-10866).

a. In some cases, 'Information will be provided in the Title II Design deliverable' and 'related documents' are listed in this column. This refers to the associated compliance documents pertaining to the cited ARARs that have not yet been identified, are in development, or are to be developed. As the information becomes available, the column listing will be modified to include the appropriate information/compliance document.

Appendix D

Air Emissions Modeling Results

NOT INCLUDED WITH THIS DRAFT

Appendix E

Groundwater Monitoring Plan

NOT INCLUDED WITH THIS DRAFT

Appendix F

Comment Resolution Forms for the Draft Remedial Design/Remedial Action Work Plan and Associated Documents

NOT INCLUDED WITH THIS DRAFT

Appendix G

Detailed Operating Procedures

NOT INCLUDED WITH THIS DRAFT